

WHAT IS CLAIMED IS:

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1. A print control apparatus for receiving a print job including print data from an external apparatus and forming an image in an image forming section based on image data comprising:
 - 5 storing means for storing print data;
 - generation means for generating image data by analyzing the print data; and
 - image formation control means for causing the image forming section to form an image based on the image data generated by the generation means,
 - wherein the storing means stores the print data of the print job until formation of an image based on the image data generated from the print data of the print job by the image forming section is completed.
2. The print control apparatus of Claim 1, further comprising interrupt control means for controlling such that in response to an interrupt instruction of a print job from the external apparatus it causes the generation means to suspend analysis of the print data of any print job other than the print job designated to interrupt and analyze the print data of the instructed print job.
- 25 3. The print control apparatus of Claim 1, wherein the interrupt control means, in response to an

interrupt instruction for a print job from the external apparatus, causes the image formation control means to suspend image formation in the image forming section based on the image data of any print job other than the
5 print job instructed for interrupt.

4. The print control apparatus of Claim 1,
wherein the interrupt control means, in response to an
interrupt instruction for a print job from the external
10 apparatus, causes the image forming section to suspend
image formation based on the print data of any print
job other than the print job instructed for interrupt.

5. The print control apparatus of Claim 1,
15 wherein the interrupt control means, in response to an
interrupt instruction for a print job from the external
device, deletes all print data generated by the
generation means.

20 6. The print control apparatus of Claim 1,
wherein the interrupt control means, in response to an
interrupt instruction for a print job from the external
device, invalidates all print data generated by the
generation means.

25 7. The print control apparatus of Claim 2,
wherein the interrupt control means analyzes all print

data stored in the storing means, which is the print data of print jobs for which analysis is suspended in response to an interrupt instruction, after analysis of all of the print data of the print job instructed for 5 interrupt is completed by the generation means.

8. The print control apparatus of Claim 3, wherein the interrupt control means analyzes all of the print data stored by the storing means, which is the 10 print data of print jobs for which image formation is suspended in response to an interrupt instruction, after the generation means has completed the analysis of all of the print data for the print job instructed to interrupt.

15 9. The print control apparatus of Claim 5, wherein the interrupt control means analyzes all of the print data stored by the storing means, which is the print data of print jobs for which image data is 20 deleted, after the generation means has completed the analysis of all of the print data for the print job instructed to interrupt.

10. The print control apparatus of Claim 6, 25 wherein the interrupt control means analyzes all of the print data stored by the storing means, which is the print data of print jobs for which image data is

invalidated, after the generation means has completed the analysis of all of the print data for the print job instructed to interrupt.

5 11. The print control apparatus of Claim 2,
wherein an interrupt instruction for a print job is included in the print job.

10 12. The print control apparatus of Claim 1,
further comprising priority control means for controlling such that the print data of a print job instructed for priority print is analyzed after the analysis of all the print data of another print job is completed by the generation means in response to a priority instruction for the print job from the external apparatus.

15 13. The print control apparatus of Claim 12,
wherein the priority instruction for a print job is included in the print job.

20 14. The print control apparatus of Claim 1,
further comprising suspend control function for controlling such that the print data stored by the storing means, which is the print data of a print job instructed for suspension, is not analyzed by the generation means in response to a suspend instruction

for the print job from the external apparatus.

15. The print control apparatus of Claim 14,
wherein the suspend control means causes the generation
5 means to analyze the print data stored in the storing
means, which is the print data of the print job
instructed for resume, in response to a resume
instruction of the print job from the external
apparatus.

10 16. The print control apparatus of Claim 15,
wherein the suspend control means controls such that
the generation means does not analyze the print data
stored in the storing means, which is print data of the
15 print job instructed for suspension, from when the
suspend instruction is received until a resume
instruction for the print job is received from the
external apparatus.

20 17. The print control apparatus of Claim 1,
wherein the generation means analyzes the print data at
the head of a list of information giving the order of
print jobs for which analysis of print data has not yet
been performed.

25 18. The print control apparatus of Claim 1,
further comprising attribution means for attributing to

received print jobs discrimination information for discriminating the print jobs.

19. The print control apparatus of Claim 17,
5 wherein the storing means stores the print data such
that the print data of print jobs can be accessed based
on the discriminating information.

20. The print control apparatus of Claim 1,
10 wherein the image forming section is an
electrophotographic type.

21. The print control apparatus of Claim 2,
further comprising determination means for determining
15 whether or not an interrupt instruction is permitted
wherein the interrupt control means does not control
such that the print data of a print job is analyzed and
the analysis of the print data of any print job other
than the print job instructed to interrupt is suspended
20 by the generation means if it is determined that the
instruction is not permitted by the determination
means.

22. The print control apparatus of Claim 3,
25 further comprising determination means for determining
whether or not an interrupt instruction is permitted
wherein the interrupt control means does not suspend

image formation in the image forming section by the image formation control means based on the image data of any print job other than the print job instructed to interrupt.

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23. The print control apparatus of Claim 5, further comprising determination means for determining whether or not an interrupt instruction is permitted wherein the interrupt control means does not suspend image formation in the image forming section based on the image data of any print job other than the print job instructed to interrupt.

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further comprising setting means for setting whether or not interrupt instruction can be used wherein the determination means determines that interrupt instruction are permitted if it is set for use by the setting means.

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25. The print control apparatus of Claim 14,

further comprising determination means for determining whether or not suspended print jobs exist at power-off and a power supply control means for suspending power-off for a designated amount of time if it is determined that a print job exists by the determination means.

26. The print control apparatus of Claim 25,
wherein the power supply control means does not perform
power-off if there is no power-off instruction during
the designated amount of time and does perform power-
off if there is a power-off instruction during the
5 designated amount of time.

27. A print control apparatus for receiving a
print job including print data from an external
10 apparatus and forming an image in an image forming
section based on image data comprising:
generation means for generating image data by
analyzing the print data; and
image formation control means for causing the
15 image forming section to form an image based on the
image data generated by the generation means,
wherein said apparatus can be operated in a first
mode for causing the generation means to suspend the
analysis of the print data of any print jobs other than
20 the instructed job and analyze the print data of the
instructed job in response to an instruction for a
print job from the external apparatus and in a second
mode for causing the generation means to analyze the
print data of the instructed print job after completing
25 analysis of all the print data of a print job.

28. The print control apparatus of Claim 27,

wherein in the first mode it causes the image formation control means to suspend image formation in the image forming section based on the image data relating to any print job other than the print job instructed to

5 interrupt in response to an instruction for a print job from the external apparatus.

29. The print control apparatus of Claim 27, wherein in the first mode it causes the suspension of

10 image formation in the image forming section based on the image data relating to any print job other than the print job instructed to interrupt in response to an instruction for a print job from the external apparatus.

15 30. The print control apparatus of Claim 27, wherein in the first mode it deletes all image data generated by the generation means in response to an instruction for a print job from the external

20 apparatus.

25 31. The print control apparatus of Claim 27, wherein in the first mode it invalidates all image data generated by the generation means in response to an instruction for a print job from the external

apparatus.

32. The print control apparatus of Claim 27,
wherein in the first mode it analyzes all print data
stored in the storing means, which is the print data of
print jobs for which analysis is suspended in response
5 to an instruction, after analysis of all of the print
data of the instructed print job is completed by the
generation means.

33. The print control apparatus of Claim 28,
10 wherein in the first mode it analyzes all print data
stored in the storing means, which is the print data of
print jobs for which image generation is suspended in
response to an instruction, after analysis of all of
the print data of the instructed print job is completed
15 by the generation means.

34. The print control apparatus of Claim 30,
wherein in the first mode it analyzes all print data
stored in the storing means, which is the print data of
20 print jobs for which image data is deleted, after
analysis of all of the print data of the instructed
print job is completed by the generation means.

35. The print control apparatus of Claim 31,
25 wherein in the first mode it analyzes all print data
stored in the storing means, which is the print data of
print jobs for which image data is invalidated, after

analysis of all of the print data of the instructed print job is completed by the generation means.

36. A print control apparatus for receiving a
5 print job including print data from an external apparatus and forming an image in an image forming section based on image data comprising:

generation means for generating image data by analyzing the print data;

10 image formation control means for causing the image forming section to form an image based on the image data generated by the generation means;

15 interrupt control means for controlling such that the generation means suspends analysis of the print data of any print jobs other than the print job instructed for interrupt and analyzes the print data of that print job; and

20 notification means for notifying the external apparatus that there has been an interruption of a print job if the analysis of the print data of a print job is interrupted by the interrupt control means.

37. The print control apparatus of Claim 36,
25 further comprising priority control means for controlling such that the print data of a print job instructed for priority print is analyzed after the analysis of all the print data of another print job is

completed by the generation means in response to a priority instruction for the print job from the external apparatus.

5 38. The print control apparatus of Claim 36, wherein the interrupt control means, in response to an interrupt instruction for a print job from the external apparatus, causes the suspension of image formation in the image forming section based on the image data of
10 any print job other than the print job instructed for interrupt.

15 39. The print control apparatus of Claim 36, wherein the notification means notifies the external apparatus that sent the print job for which analysis of print data is interrupted by the interrupt control means.

20 40. The print control apparatus of Claim 37, wherein the notification means notifies the external apparatus that sent the print job for which the interrupt control means caused image formation in the image formation section based on image data to be interrupted.
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41. The print control apparatus of Claim 38, wherein the notification means notifies the external

apparatus that sent the print job for which image formation based on image data is interrupted by the interrupt control means.

5 42. The print control apparatus of Claim 36, wherein the notification means notifies the external apparatus that sent the print job for which print data is not analyzed by the generation means.

10 43. The print control apparatus of Claim 36, wherein the external apparatus is a host computer connected via a network.

15 44. The print control apparatus of Claim 43, further comprising address storing means for storing the network address of the external apparatus that sent the received print job in connection with the print job.

20 45. A print control apparatus for receiving a print job including print data from an external apparatus and forming an image in an image forming section based on image data comprising:

25 generation means for generating image data by analyzing the print data;

 image formation control means for causing the image forming section to form an image based on the image data generated by the generation means;

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priority control means for controlling such that the print data of a print job instructed for priority print is analyzed after the analysis of all print data for the previous job is completed by the generation means; and

notification means for notifying the external apparatus that there has been an interruption if the print data of the print job instructed for priority is analyzed by the priority control means.

46. The print control apparatus of Claim 45, wherein the notification means notifies the external apparatus that sent the print job for which the print data is not analyzed by the generation means.

47. The print control apparatus of Claim 45, wherein the external apparatus is a host computer connected via a network.

48. The print control apparatus of Claim 47, further comprising address storing means for storing the network address of the external apparatus that sent the received print job in connection with the print job.

25 49. A print control apparatus equipped with an interrupt function comprising:
memory means for storing print jobs supplied from

an external apparatus;

means for inputting interrupt commands externally;

5 saving means for saving print jobs in response to the interrupt command; and

output means for informing the external apparatus of the interrupt in response to the saving process.

10 50. The print control apparatus of Claim 49, further comprising processing means for analyzing the print job and outputting to the external apparatus wherein the saving process is performed by the processing means for print jobs that are currently outputting or waiting for output and print jobs 15 currently being analyzed.

51. The print control apparatus of Claim 49, wherein the interrupt print function prints a print job sent after input of the interrupt command by priority.

20 52. The print control apparatus of Claim 49, wherein the interrupt print function prints a designated print job among multiple print jobs already supplied by priority.

25 53. The print control apparatus of Claim 50, wherein the memory means stores multiple print jobs and

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returns the status of the print jobs currently outputting or waiting for output and the print jobs currently being analyzed back to their status before input of the interrupt command after executing the
5 interrupt command.

54. The print control apparatus of Claim 49,
wherein the external apparatus supplying the print job
is a host computer connected via a network.

10 55. The print control apparatus of Claim 54,
further comprising interface means for informing the
host computer that transferred the interrupted print
job that there is an interrupt print.

15 56. The print control apparatus of Claim 49,
further comprising multiple sheet ejection means
wherein an interrupt instructed print sheet is ejected
by a different ejection means than other print sheet.

20 57. A print control method for receiving print
jobs including print data from an external apparatus
and causing image formation in an image forming section
based on image data comprising:

25 a storing step for storing print data with a
storing means;

a generation step for generating image data by

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analyzing print data; and

an image formation control step for causing image formation in the image forming section based on the image data generated by the generation step,

5 wherein the storing step stores print data of a print job by the storing means from the time the print data of a print job is generated until the formation of an image based on all of the image data is completed by the image forming section.

10 58. The print control method of Claim 57, further comprising an interrupt control step for controlling such that in response to an interrupt instruction of a print job from the external apparatus it causes the generation step to suspend analysis of the print data of any print job other than the print job designated to interrupt and analyze the print data of the instructed print job.

20 59. The print control method of Claim 57, wherein the interrupt control step, in response to an interrupt instruction for a print job from the external apparatus, causes the image formation control step to suspend image formation in the image forming section based on the image data of any print job other than the print job instructed for interrupt.

60. The print control method of Claim 57, wherein
the interrupt control step, in response to an interrupt
instruction for a print job from the external
apparatus, causes the image forming section to suspend
5 image formation based on the print data of any print
job other than the print job instructed for interrupt.

61. The print control method of Claim 57, wherein
the interrupt control step, in response to an interrupt
10 instruction for a print job from the external device,
deletes all print data generated by the generation
step.

62. The print control method of Claim 57, wherein
15 the interrupt control step, in response to an interrupt
instruction for a print job from the external device,
invalidates all print data generated by the generation
step.

20 63. The print control method of Claim 58, wherein
the interrupt control step analyzes all print data
stored in the storing means, which is the print data of
print jobs for which analysis is suspended in response
to an interrupt instruction, after analysis of all of
25 the print data of the print job instructed for
interrupt is completed by the generation step.

64. The print control method of Claim 59, wherein
the interrupt control step analyzes all of the print
data stored by the storing means, which is the print
data of print jobs for which image formation is
suspended in response to an interrupt instruction,
5 after the generation step has completed the analysis of
all of the print data for the print job instructed to
interrupt.

10 65. The print control method of Claim 61, wherein
the interrupt control step analyzes all of the print
data stored by the storing means, which is the print
data of print jobs for which image data is deleted,
after the generation step has completed the analysis of
15 all of the print data for the print job instructed to
interrupt.

20 66. The print control method of Claim 62, wherein
the interrupt control step analyzes all of the print
data stored by the storing means, which is the print
data of print jobs for which image data is invalidated,
after the generation step has completed the analysis of
25 all of the print data for the print job instructed to
interrupt.

67. The print control method of Claim 58, wherein
an interrupt instruction for a print job is included in

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the print job.

68. The print control method of Claim 57, further comprising a priority control step for controlling such that the print data of a print job instructed for priority print is analyzed after the analysis of all the print data of another print job is completed by the generation step in response to a priority instruction for the print job from the external apparatus.

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69. The print control method of Claim 68, wherein the priority instruction for a print job is included in the print job.

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70. The print control method of Claim 57, further comprising a suspend control step for controlling such that the print data stored by the storing means, which is the print data of a print job instructed for suspension, is not analyzed by the generation step in response to a suspend instruction for the print job from the external apparatus.

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71. The print control method of Claim 70, wherein the suspend control step causes the generation step to analyze the print data stored in the storing means, which is the print data of the print job instructed for resume, in response to a resume instruction of the

print job from the external apparatus.

72. The print control method of Claim 71, wherein
the suspend control step controls such that the
5 generation step does not analyze the print data stored
in the storing means, which is print data of the print
job instructed for suspension, from when the suspend
instruction is received until a resume instruction for
the print job is received from the external apparatus.

10 73. The print control method of Claim 57, wherein
the generation step analyzes the print data at the head
of a list of information giving the order of print jobs
for which analysis of print data has not yet been
15 performed.

74. The print control method of Claim 57, further
comprising an attribution step for attributing to
received print jobs discrimination information for
20 discriminating the print jobs.

75. The print control method of Claim 73, wherein
the storing step stores the print data such that the
print data of print jobs can be accessed based on the
25 discriminating information.

76. The print control method of Claim 57, wherein

the image forming section is an electrophotographic type.

5 77. The print control method of Claim 58, further comprising a determination step for determining whether or not an interrupt instruction is permitted wherein the interrupt control step does not control such that the print data of a print job is analyzed and the analysis of the print data of any print job other than the print job instructed to interrupt is suspended by the generation step if it is determined that the instruction is not permitted by the determination means.

10 15 78. The print control method of Claim 59, further comprising a determination step for determining whether or not an interrupt instruction is permitted wherein the interrupt control step does not cause the image formation control step to suspend image formation in the image forming section based on the image data of any print job other than the print job instructed to interrupt.

20 25 79. The print control method of Claim 61, further comprising a determination step for determining whether or not an interrupt instruction is permitted wherein the interrupt control step does not cause suspension of

image formation in the image forming section based on the image data of any print job other than the print job instructed to interrupt.

5 80. The print control method of Claim 77, further comprising a setting step for setting whether or not interrupt instruction can be used wherein the determination step determines that interrupt instructions are permitted if it is set for use by the

10 setting step.

81. The print control method of Claim 70, further comprising a determination step for determining whether or not suspended print jobs exist at power-off and a power supply control step for suspending power-off for a designated amount of time if it is determined that a print job exists by the determination step.

20 82. The print control method of Claim 81, wherein the power supply control step does not perform power-off if there is no power-off instruction during the designated amount of time and does perform power-off if there is a power-off instruction during the designated amount of time.

25 83. A print control method for receiving a print job including print data from an external apparatus and

forming an image in an image forming section based on image data comprising:

a generation step for generating image data by analyzing the print data; and

5 an image formation control step for causing the image forming section to form an image based on the image data generated by the generation step,

wherein said method can be executed in a first mode for causing the generation step to suspend the

10 analysis of the print data of any print jobs other than the instructed job and analyze the print data of the instructed job in response to an instruction for a print job from the external apparatus and in a second mode for causing the generation step to analyze the 15 print data of the instructed print job after completing analysis of all the print data of a print job.

84. The print control method of Claim 83, wherein in the first mode it causes the image formation control step to suspend image formation in the image forming section based on the image data relating to any print job other than the print job instructed to interrupt in response to an instruction for a print job from the external apparatus.

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85. The print control method of Claim 83, wherein in the first mode it causes the suspension of image

formation in the image forming section based on the image data relating to any print job other than the print job instructed to interrupt in response to an instruction for a print job from the external apparatus.

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86. The print control method of Claim 83, wherein in the first mode it deletes all image data generated by the generation step in response to an instruction 10 for a print job from the external apparatus.

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87. The print control method of Claim 83, wherein in the first mode it invalidates all image data generated by the generation step in response to an 15 instruction for a print job from the external apparatus.

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88. The print control method of Claim 83, wherein in the first mode it analyzes all print data stored in the storing means, which is the print data of print jobs for which analysis is suspended in response to an instruction, after analysis of all of the print data of the instructed print job is completed by the generation step.

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89. The print control method of Claim 84, wherein in the first mode it analyzes all print data stored in

the storing means, which is the print data of print
jobs for which image generation is suspended in
response to an instruction, after analysis of all of
the print data of the instructed print job is completed
5 by the generation step.

90. The print control method of Claim 86, wherein
in the first mode it analyzes all print data stored in
the storing means, which is the print data of print
10 jobs for which image data is deleted, after analysis of
all of the print data of the instructed print job is
completed by the generation step.

91. The print control method of Claim 87, wherein
15 in the first mode it analyzes all print data stored in
the storing means, which is the print data of print
jobs for which image data is invalidated, after
analysis of all of the print data of the instructed
print job is completed by the generation step.

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92. A print control method for receiving a print
job including print data from an external apparatus and
forming an image in an image forming section based on
image data comprising:
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a generation step for generating image data by
analyzing the print data;

an image formation control step for causing the

image forming section to form an image based on the image data generated by the generation step; an interrupt control step for controlling such that the generation step suspends analysis of the print data of any print jobs other than the print job instructed for interrupt and analyzes the print data of that print job; and a notification step for notifying the external apparatus that there has been an interruption of a print job if the analysis of the print data of a print job is interrupted by the interrupt control step.

93. The print control method of Claim 92, wherein the interrupt control step, in response to an interrupt instruction for a print job from the external apparatus, causes the suspension of image formation by the image formation control step in the image forming section based on the image data of any print job other than the print job instructed for interrupt.

94. The print control method of Claim 92, wherein the interrupt control step, in response to an interrupt instruction for a print job from the external apparatus, causes the suspension of image formation in the image forming section based on the image data of any print job other than the print job instructed for interrupt.

95. The print control method of Claim 92,
wherein the notification step notifies the external
apparatus that sent the print job for which analysis of
print data is interrupted by the interrupt control
5 step.

96. The print control method of Claim 93, wherein
the notification step notifies the external apparatus
that sent the print job for which the interrupt control
10 step caused image formation in the image formation
section based on image data to be interrupted.

97. The print control method of Claim 94, wherein
the notification step notifies the external apparatus
15 that sent the print job for which image formation based
on image data is interrupted by the interrupt control
step.

98. The print control method of Claim 92, wherein
20 the notification step notifies the external apparatus
that sent the print job for which print data is not
analyzed by the generation step.

99. The print control method of Claim 92, wherein
25 the external apparatus is a host computer connected via
a network.

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100. The print control method of Claim 99,
further comprising an address storing step of storing
the network address of the external apparatus that sent
the received print job in connection with the print
5 job.

101. A print control method for receiving a print
job including print data from an external apparatus and
forming an image in an image forming section based on
10 image data comprising:

10 a generation step for generating image data by
analyzing the print data;

15 an image formation control step for causing the
image forming section to form an image based on the
image data generated by the generation step;

20 a priority control step for controlling such that
the print data of a print job instructed for priority
print is analyzed after the analysis of all print data
for the previous job is completed by the generation
step; and

25 a notification step for notifying the external
apparatus that there has been an interruption if the
print data of the print job instructed for priority is
analyzed by the priority control step.

102. The print control method of Claim 101,
wherein the notification step notifies the external

apparatus that sent the print job for which the print data is not analyzed by the generation step.

103. The print control method of Claim 101,
5 wherein the external apparatus is a host computer connected via a network.

104. The print control method of Claim 103,
10 further comprising an address storing step for storing the network address of the external apparatus that sent the received print job in connection with the print job.

105. A print control method equipped with an
15 interrupt print function and comprising:
a memory step for storing print jobs supplied from an external apparatus;
a step for inputting interrupt commands externally;
20 a saving step for saving print jobs in response to the interrupt command; and
an output step for informing the external apparatus of the interrupt in response to the saving process.

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106. The print control method of Claim 105,
further comprising a processing step for analyzing the

print job and outputting to the external apparatus wherein the saving process is performed by the processing step for print jobs that are currently outputting or waiting for output and print jobs currently being analyzed.

107. The print control method of Claim 105,
wherein the interrupt print function prints a print job
sent after input of the interrupt command by priority.

108. The print control method of Claim 105,
wherein the interrupt print function prints a
designated print job among multiple print jobs already
supplied by priority. *v*

110. The print control method of Claim 105,
25 wherein the external apparatus supplying the print job
is a host computer connected via a network.

111. The print control method of Claim 110,
further comprising an interface step for informing the
host computer that transferred the interrupted print
job that there is an interrupt print.

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112. The print control method of Claim 105,
further comprising an ejection step for ejecting
printed sheets with any of multiple sheet ejection
means wherein the ejection step ejects printed sheets
10 of interrupt instructed jobs with a different sheet
ejection means than that for other printed sheets.

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113. A computer-readable memory medium which
stores a print control program for receiving a print
job including print data from an external device and
causing image formation in an image forming section
based on image data, the program comprising:

15 a storing step for storing print data in storing
means;

20 a generation step for generating image data by
analyzing print data; and

an image formation control step for causing image
formation in an image forming section based on image
data generated by the generation step;

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wherein the storing step stores print data of
print jobs in the storing means until the image forming
section has finished forming an image based on all of

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the image data generated from the print data of the print job.

114. The computer-readable memory medium of Claim
5 113, wherein the program further comprises an interrupt control step for controlling such that, in response to an interrupt instruction of a print job from the external apparatus, it causes the generation step to suspend analysis of the print data of any print job
10 other than the print job designated to interrupt and analyze the print data of the instructed print job.

115. The computer-readable memory medium of Claim
15 113, wherein the interrupt control step, in response to an interrupt instruction for a print job from the external apparatus, causes the image formation control step to suspend image formation in the image forming section based on the image data of any print job other than the print job instructed for interrupt.

20 116. The computer-readable memory medium of Claim
113, wherein the interrupt control step, in response to an interrupt instruction for a print job from the external apparatus, causes the image forming section to suspend image formation based on the print data of any print job other than the print job instructed for interrupt.

2020-2020-2020

117. The computer-readable memory medium of Claim
113, wherein the interrupt control step, in response to
an interrupt instruction for a print job from the
external device, deletes all print data generated by
5 the generation step.

118. The computer-readable memory medium of Claim
113, wherein the interrupt control step, in response to
an interrupt instruction for a print job from the
10 external device, invalidates all print data generated
by the generation step.

119. The computer-readable memory medium of Claim
114, wherein the interrupt control step analyzes all
15 print data stored in the storing means, which is the
print data of print jobs for which analysis is
suspended in response to an interrupt instruction,
after analysis of all of the print data of the print
job instructed for interrupt is completed by the
20 generation step.

120. The computer-readable memory medium of Claim
115, wherein the interrupt control step analyzes all of
the print data stored by the storing means, which is
25 the print data of print jobs for which image formation
is suspended in response to an interrupt instruction,
after the generation step has completed the analysis of

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all of the print data for the print job instructed to interrupt.

121. The computer-readable memory medium of Claim 5 117, wherein the interrupt control step analyzes all of the print data stored by the storing means, which is the print data of print jobs for which image data is deleted, after the generation step has completed the analysis of all of the print data for the print job 10 instructed to interrupt.

122. The computer-readable memory medium of Claim 15 118, wherein the interrupt control step analyzes all of the print data stored by the storing means, which is the print data of print jobs for which image data is invalidated, after the generation step has completed the analysis of all of the print data for the print job 20 instructed to interrupt.

sub A1 > 20 123. The computer-readable memory medium of Claim 114, wherein an interrupt instruction for a print job is included in the print job.

25 124. The computer-readable memory medium of Claim 113, wherein the program further comprises a priority control step for controlling such that the print control program causes the print data of a print job

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instructed for priority print to be analyzed after the analysis of all the print data of another print job is completed by the generation step in response to a priority instruction for the print job from the external apparatus.

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125. The computer-readable memory medium of Claim 124, wherein the priority instruction for a print job is included in the print job.

10

126. The computer-readable memory medium of Claim 113, wherein the program further comprises a suspend control step for controlling such that the print control program causes the generation step to suspend analysis of the print data stored by the storing means, which is the print data of a print job instructed for suspension, in response to a suspend instruction for the print job from the external apparatus.

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20 127. The computer-readable memory medium of Claim 126, wherein the suspend control step causes the generation step to analyze the print data stored in the storing means, which is the print data of the print job instructed for resume, in response to a resume instruction of the print job from the external apparatus.

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128. The computer-readable memory medium of Claim
127, wherein the suspend control step controls such
that the generation step does not analyze the print
data stored in the storing means, which is print data
5 of the print job instructed for suspension, from when
the suspend instruction is received until a resume
instruction for the print job is received from the
external apparatus.

10 129. The computer-readable memory medium of Claim
113, wherein the generation step analyzes the print
data at the head of a list of information giving the
order of print jobs for which analysis of print data
has not yet been performed.

15 130. The computer-readable memory medium of Claim
113, wherein the program further comprises an
attribution step wherein the print control program
attributes to received print jobs discrimination
20 information for discriminating the print jobs.

131. The computer-readable memory medium of Claim
129, wherein the storing step stores the print data
with a storing means such that the print data of print
25 jobs can be accessed based on the discriminating
information.

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132. The computer-readable memory medium of Claim
113, wherein the image forming section is an
electrophotographic type.

133. The computer-readable memory medium of Claim
114, wherein the program further comprises a
determination step for determining whether or not an
interrupt instruction is permitted wherein the
interrupt control step does not control such that the
print data of a print job is analyzed and the analysis
of the print data of any print job other than the print
job instructed to interrupt is suspended by the
generation step if it is determined that the
instruction is not permitted by the determination step.

134. The computer-readable memory medium of Claim 115, wherein the program further comprises a determination step for determining whether or not an interrupt instruction is permitted wherein the interrupt control step does not suspend image formation in the image forming section by the image formation control step based on the image data of any print job other than the print job instructed to interrupt.

25 135. The computer-readable memory medium of Claim
117, wherein the program further comprises a
determination step for determining whether or not an

interrupt instruction is permitted wherein the
interrupt control step does not suspend image formation
in the image forming section based on the image data of
any print job other than the print job instructed to
5 interrupt.

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136. The computer-readable memory medium of Claim
133, wherein the program further comprises a setting
step for setting whether or not interrupt instructions
10 can be used wherein the determination step determines
that interrupt instruction are permitted if it is set
for use by the setting step.

137. The computer-readable memory medium of Claim
126, wherein the program further comprises a
determination step for determining whether or not
suspended print jobs exist at power-off and a power
supply control step for suspending power-off for a
designated amount of time if it is determined that a
20 print job exists by the determination step.

138. The computer-readable memory medium of Claim
137, wherein the power supply control step does not
perform power-off if there is no power-off instruction
25 during the designated amount of time and does perform
power-off if there is a power-off instruction during
the designated amount of time.

139. A computer-readable memory medium which stores a print control program for receiving a print job including print data from an external device and causing image formation in an image forming section based on image data, the program comprising:

5 a generation step for generating image data by analyzing the print data; and

10 an image formation control step for causing the image forming section to form an image based on the image data generated by the generation step,

15 wherein the program can be executed in:

20 a first mode for causing the generation step to suspend the analysis of the print data of any print jobs other than the instructed job and analyze the print data of the instructed job in response to an instruction for a print job from the external apparatus; and

25 a second mode for causing the generation step to analyze the print data of the instructed print job after completing analysis of all the print data of a print job.

140. The computer-readable memory medium of Claim 139, wherein in the first mode it causes the image formation control step to suspend image formation in the image forming section based on the image data relating to any print job other than the print job

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instructed to interrupt in response to an instruction for a print job from the external apparatus.

141. The computer-readable memory medium of Claim 5 139, wherein in the first mode it causes the suspension of image formation in the image forming section based on the image data relating to any print job other than the print job instructed to interrupt in response to an instruction for a print job from the external 10 apparatus.

142. The computer-readable memory medium of Claim 15 139, wherein in the first mode it deletes all image data generated by the generation step in response to an instruction for a print job from the external apparatus.

143. The computer-readable memory medium of Claim 20 139, wherein in the first mode it invalidates all image data generated by the generation step in response to an instruction for a print job from the external apparatus.

144. The computer-readable memory medium of Claim 25 139, wherein in the first mode it analyzes all print data stored in the storing means, which is the print data of print jobs for which analysis is suspended in

response to an instruction, after analysis of all of the print data of the instructed print job is completed by the generation step.

5 145. The computer-readable memory medium of Claim 140, wherein in the first mode it analyzes all print data stored in the storing means, which is the print data of print jobs for which image generation is suspended in response to an instruction, after analysis 10 of all of the print data of the instructed print job is completed by the generation step.

15 146. The computer-readable memory medium of Claim 142, wherein in the first mode it analyzes all print data stored in the storing means, which is the print data of print jobs for which image data is deleted, after analysis of all of the print data of the instructed print job is completed by the generation step.

20 147. The computer-readable memory medium of Claim 143, wherein in the first mode it analyzes all print data stored in the storing means, which is the print data of print jobs for which image data is invalidated, 25 after analysis of all of the print data of the instructed print job is completed by the generation step.

148. A computer-readable memory medium which stores a print control program for receiving a print job including print data from an external device and causing image formation in an image forming section based on image data, the program comprising:

5 a generation step for generating image data by analyzing the print data;

an image formation control step for causing the image forming section to form an image based on the 10 image data generated by the generation step;

an interrupt control step for controlling such that the generation step suspends analysis of the print data of any print jobs other than the print job instructed for interrupt and analyzes the print data of 15 that print job; and

20 a notification step for notifying the external apparatus that there has been an interruption of a print job if the analysis of the print data of a print job is interrupted by the interrupt control step.

149. The computer-readable memory medium of Claim 148, wherein the interrupt control step, in response to an interrupt instruction for a print job from the external apparatus, causes the image formation control step to suspend image formation in the image forming section based on the image data of any print job other than the print job instructed for interrupt.

150. The computer-readable memory medium of Claim 148, wherein the interrupt control step, in response to an interrupt instruction for a print job from the external apparatus, causes the suspension of image formation in the image forming section based on the image data of any print job other than the print job instructed for interrupt.

151. The computer-readable memory medium of Claim 148, wherein the notification step notifies the external apparatus that sent the print job for which analysis of print data is interrupted by the interrupt control step.

152. The computer-readable memory medium of Claim 149, wherein the notification step notifies the external apparatus that sent the print job for which the interrupt control step caused image formation in the image formation section based on image data to be interrupted.

153. The computer-readable memory medium of Claim 150, wherein the notification step notifies the external apparatus that sent the print job for which image formation based on image data is interrupted by the interrupt control step.

2020-00202000

154. The computer-readable memory medium of Claim
148, wherein the notification step notifies the
external apparatus that sent the print job for which
print data is not analyzed by the generation step.

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155. The computer-readable memory medium of Claim
148, wherein the external apparatus is a host computer
connected via a network.

10 156. The computer-readable memory medium of Claim
155, wherein the program further comprises an address
storing step for storing the network address of the
external apparatus that sent the received print job in
connection with the print job.

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157. A computer-readable memory medium which stores a print control program for receiving a print job including print data from an external device and causing image formation in an image forming section based on image data, the program comprising:

20 based on image data, the program comprising:

a generation step for generating image data by
analyzing the print data;

an image formation control step for causing the image forming section to form an image based on the image data generated by the generation step;

a priority control step for controlling such that
the print data of a print job instructed for priority

print is analyzed after the analysis of all print data for the previous job is completed by the generation step; and

5 a notification step for notifying the external apparatus that there has been an interruption if the print data of the print job instructed for priority is analyzed by the priority control step.

10 158. The computer-readable memory medium of Claim 157, wherein the notification step notifies the external apparatus that sent the print job for which the print data is not analyzed by the generation step.

15 159. The computer-readable memory medium of Claim 157, wherein the external apparatus is a host computer connected via a network.

20 160. The computer-readable memory medium of Claim 158, wherein the program further comprises an address storing step for storing the network address of the external apparatus that sent the received print job in connection with the print job.

25 161. A computer-readable memory medium which stores a print control program with an interrupt print function, the print control program comprising:

a memory step for storing print jobs supplied

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from an external apparatus;
a step for inputting interrupt commands
externally;
a saving step for saving print jobs in response
5 to the interrupt command; and
an output step for informing the external
apparatus of the interrupt in response to the saving
process.

10 162. The computer-readable memory medium of Claim
161, wherein the program further comprises a processing
step wherein the print control program analyzes the
print job and outputs to the external apparatus and the
saving process is performed by the processing step for
15 print jobs that are currently outputting or waiting for
output and print jobs currently being analyzed.

163. The computer-readable memory medium of Claim
161, wherein the interrupt print function prints a
20 print job sent after input of the interrupt command by
priority.

164. The computer-readable memory medium of Claim
161, wherein the interrupt print function prints a
25 designated print job among multiple print jobs already
supplied by priority.

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165. The computer-readable memory medium of Claim
162, wherein the memory step stores multiple print jobs
and returns the status of the print jobs currently
outputting or waiting for output and the print jobs
5 currently being analyzed back to their status before
input of the interrupt command after executing the
interrupt command.

166. The computer-readable memory medium of Claim
10 161, wherein the external apparatus supplying the print
job is a host computer connected via a network.

167. The computer-readable memory medium of Claim
15 166, wherein the program further comprises an interface
step wherein the print control program informs the host
computer that transferred the interrupted print job
that there is an interrupt print.

168. The computer-readable memory medium of Claim
20 161, wherein the program further comprises an ejection
step wherein the print control program ejects printed
sheets by any of multiple sheet ejection means, and
said ejection step ejects printed sheets of
interrupting jobs by a different ejection means than
25 that used for other printed sheets.

5.6 A. > 169. A print control program for receiving print

jobs including print data from an external apparatus and causing image formation in an image forming section based on image data, comprising:

5 a storing step for storing print data with a
storing means;

10 a generation step for generating image data by
analyzing print data; and

15 an image formation control step for causing image
formation in the image forming section based on the
image data generated by the generation step,
wherein the storing step stores print data of a
print job by the storing means until the formation of
an image based on all of the image data generated from
the print data of the print job is completed by the
image forming section.

170. The print control program of Claim 169,
further comprising an interrupt control step for
controlling such that in response to an interrupt
20 instruction of a print job from the external apparatus
it causes the generation step to suspend analysis of
the print data of any print job other than the print
job designated to interrupt and analyze the print data
of the instructed print job.

25 171. The print control program of Claim 169,
wherein the interrupt control step, in response to an

interrupt instruction for a print job from the external apparatus, causes the image formation control step to suspend image formation in the image forming section based on the image data of any print job other than the 5 print job instructed for interrupt.

172. The print control program of Claim 169, wherein the interrupt control step, in response to an interrupt instruction for a print job from the external 10 apparatus, causes the image forming section to suspend image formation based on the print data of any print job other than the print job instructed for interrupt.

173. The print control program of Claim 169, 15 wherein the interrupt control step, in response to an interrupt instruction for a print job from the external device, deletes all print data generated by the generation step.

20 174. The print control program of Claim 169, wherein the interrupt control step, in response to an interrupt instruction for a print job from the external device, invalidates all print data generated by the generation step.

25 175. The print control program of Claim 170, wherein the interrupt control step analyzes all print

data stored in the storing means, which is the print data of print jobs for which analysis is suspended in response to an interrupt instruction, after analysis of all of the print data of the print job instructed for interrupt is completed by the generation step.

176. The print control program of Claim 171,
wherein the interrupt control step analyzes all of the
print data stored by the storing means, which is the
print data of print jobs for which image formation is
suspended in response to an interrupt instruction,
after the generation step has completed the analysis of
all of the print data for the print job instructed to
interrupt.

15 177. The print control program of Claim 173,
wherein the interrupt control step analyzes all of the
print data stored by the storing means, which is the
print data of print jobs for which image data is
20 deleted, after the generation step has completed the
analysis of all of the print data for the print job
instructed to interrupt.

178. The print control program of Claim 174,
25 wherein the interrupt control step analyzes all of the
print data stored by the storing means, which is the
print data of print jobs for which image data is

invalidated, after the generation step has completed the analysis of all of the print data for the print job instructed to interrupt.

5 179. The print control program of Claim 170,
wherein an interrupt instruction for a print job is
included in the print job.

180. The print control program of Claim 169,
10 further comprising a priority control step for
controlling such that the print data of a print job
instructed for priority print is analyzed after the
analysis of all the print data of another print job is
completed by the generation step in response to a
15 priority instruction for the print job from the
external apparatus.

181. The print control program of Claim 180,
wherein the priority instruction for a print job is
20 included in the print job.

182. The print control program of Claim 169,
further comprising a suspend control step for
controlling such that the print data stored by the
25 storing means, which is the print data of a print job
instructed for suspension, is not analyzed by the
generation step in response to a suspend instruction

for the print job from the external apparatus.

183. The print control program of Claim 182,
wherein the suspend control step causes the generation
5 step to analyze the print data stored in the storing
means, which is the print data of the print job
instructed for resume, in response to a resume
instruction of the print job from the external
apparatus.

10 184. The print control program of Claim 183,
wherein the suspend control step controls such that the
generation step does not analyze the print data stored
in the storing means, which is print data of the print
15 job instructed for suspension, from when the suspend
instruction is received until a resume instruction for
the print job is received from the external apparatus.

20 185. The print control program of Claim 169,
wherein the generation step analyzes the print data at
the head of a list of information giving the order of
print jobs for which analysis of print data has not yet
been performed.

25 186. The print control program of Claim 169,
further comprising an attribution step for attributing
to received print jobs discrimination information for

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discriminating the print jobs.

187. The print control program of Claim 185,
wherein the storing step stores the print data such
5 that the print data of print jobs can be accessed based
on the discriminating information.

188. The print control program of Claim 169,
wherein the image forming section is an
10 electrophotographic type.

189. The print control program of Claim 170,
further comprising a determination step for determining
whether or not an interrupt instruction is permitted
15 wherein the interrupt control step does not control
such that the print data of a print job is analyzed and
the analysis of the print data of any print job other
than the print job instructed to interrupt is suspended
by the generation step if it is determined that the
20 instruction is not permitted by the determination
means.

190. The print control program of Claim 173,
further comprising a determination step for determining
25 whether or not an interrupt instruction is permitted
wherein the interrupt control step does not cause the
image formation control step to suspend image formation

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in the image forming section based on the image data of any print job other than the print job instructed to interrupt.

5 191. The print control program of Claim 173, further comprising a determination step for determining whether or not an interrupt instruction is permitted wherein the interrupt control step does not cause suspension of image formation in the image forming 10 section based on the image data of any print job other than the print job instructed to interrupt.

56 A1 > 192. The print control program of Claim 189, further comprising a setting step for setting whether or not interrupt instruction can be used wherein the determination step determines that interrupt 15 instructions are permitted if it is set for use by the setting step.

20 193. The print control program of Claim 182, further comprising a determination step for determining whether or not suspended print jobs exist at power-off and a power supply control step for suspending power-off for a designated amount of time if it is determined 25 that a print job exists by the determination step.

194. The print control program of Claim 193,

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wherein the power supply control step does not perform power-off if there is no power-off instruction during the designated amount of time and does perform power-off if there is a power-off instruction during the
5 designated amount of time.

195. A print control program for receiving a print job including print data from an external apparatus and forming an image in an image forming
10 section based on image data, comprising:

a generation step for generating image data by analyzing the print data; and

an image formation control step for causing the image forming section to form an image based on the
15 image data generated by the generation step,

wherein said program can be executed in a first mode for causing the generation step to suspend the analysis of the print data of any print jobs other than the instructed job and analyze the print data of the
20 instructed job in response to an instruction for a print job from the external apparatus and in a second mode for causing the generation step to analyze the print data of the instructed print job after completing analysis of all the print data of a print job.

25

196. The print control program of Claim 195,
wherein in the first mode it causes the image formation

control step to suspend image formation in the image forming section based on the image data relating to any print job other than the print job instructed to interrupt in response to an instruction for a print job from the external apparatus.

197. The print control program of Claim 195, wherein in the first mode it causes the suspension of image formation in the image forming section based on the image data relating to any print job other than the print job instructed to interrupt in response to an instruction for a print job from the external apparatus.

198. The print control program of Claim 195, wherein in the first mode it deletes all image data generated by the generation step in response to an instruction for a print job from the external apparatus.

199. The print control program of Claim 195, wherein in the first mode it invalidates all image data generated by the generation step in response to an instruction for a print job from the external apparatus.

200. The print control program of Claim 195,

wherein in the first mode it analyzes all print data stored in the storing means, which is the print data of print jobs for which analysis is suspended in response to an instruction, after analysis of all of the print data of the instructed print job is completed by the generation step.

201. The print control program of Claim 196,
wherein in the first mode it analyzes all print data
10 stored in the storing means, which is the print data of
print jobs for which image generation is suspended in
response to an instruction, after analysis of all of
the print data of the instructed print job is completed
by the generation step.

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202. The print control program of Claim 198,
wherein in the first mode it analyzes all print data
stored in the storing means, which is the print data of
print jobs for which image data is deleted, after
20 analysis of all of the print data of the instructed
print job is completed by the generation step.

203. The print control program of Claim 199,
wherein in the first mode it analyzes all print data
25 stored in the storing means, which is the print data of
print jobs for which image data is invalidated, after
analysis of all of the print data of the instructed

print job is completed by the generation step.

204. A print control program for receiving a print job including print data from an external apparatus and forming an image in an image forming section based on image data, comprising:

5 a generation step for generating image data by analyzing the print data;

10 an image formation control step for causing the image forming section to form an image based on the image data generated by the generation step;

15 an interrupt control step for controlling such that the generation step suspends analysis of the print data of any print job other than the print job instructed for interrupt and analyzes the print data of that print job; and

20 a notification step for notifying the external apparatus that there has been an interruption of a print job if the analysis of the print data of a print job is interrupted by the interrupt control step.

205. The print control program of Claim 204, wherein the interrupt control step, in response to an interrupt instruction for a print job from the external apparatus, causes the suspension of image formation by the image formation control step in the image forming section based on the image data of any print job other

than the print job instructed for interrupt.

206. The print control program of Claim 204,
wherein the interrupt control step, in response to an
5 interrupt instruction for a print job from the external
apparatus, causes the suspension of image formation in
the image forming section based on the image data of
any print job other than the print job instructed for
interrupt.

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207. The print control program of Claim 204,
wherein the notification step notifies the external
apparatus that sent the print job for which analysis of
print data is interrupted by the interrupt control
15 step.

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208. The print control program of Claim 205,
wherein the notification step notifies the external
apparatus that sent the print job for which the
interrupt control step caused image formation in the
image formation section based on image data to be
interrupted.

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209. The print control program of Claim 206,
wherein the notification step notifies the external
apparatus that sent the print job for which image
formation based on image data is interrupted by the

interrupt control step.

210. The print control program of Claim 204,
wherein the notification step notifies the external
5 apparatus that sent the print job for which print data
is not analyzed by the generation step.

211. The print control program of Claim 204,
wherein the external apparatus is a host computer
10 connected via a network.

212. The print control program of Claim 211,
further comprising an address storing step for storing
the network address of the external apparatus that sent
15 the received print job in connection with the print
job.

213. A print control program for receiving a
print job including print data from an external
20 apparatus and forming an image in an image forming
section based on image data, comprising:

a generation step for generating image data by
analyzing the print data;

25 an image formation control step for causing the
image forming section to form an image based on the
image data generated by the generation step;

a priority control step for controlling such that

the print data of a print job instructed for priority print is analyzed after the analysis of all print data for the previous job is completed by the generation step; and

5 a notification step for notifying the external apparatus that there has been an interruption if the print data of the print job instructed for priority is analyzed by the priority control step.

10 214. The print control program of Claim 213, wherein the notification step notifies the external apparatus that sent the print job for which the print data is not analyzed by the generation step.

15 215. The print control program of Claim 213, wherein the external apparatus is a host computer connected via a network.

20 216. The print control program of Claim 214, further comprising an address storing step for storing the network address of the external apparatus that sent the received print job in connection with the print job.

25 217. A print control program with an interrupt print function, comprising:

 a memory step for storing print jobs supplied

from an external apparatus:

a step for inputting interrupt commands externally;

5 a saving step for saving print jobs in response to the interrupt command; and

an output step for informing the external apparatus of the interrupt in response to the saving process.

10 218. The print control program of Claim 217, further comprising a processing step for analyzing the print job and outputting to the external apparatus wherein the saving process is performed by the processing step for print jobs that are currently 15 outputting or waiting for output and print jobs currently being analyzed.

219. The print control program of Claim 217, wherein the interrupt print function prints a print job 20 sent after input of the interrupt command by priority.

220. The print control program of Claim 217, wherein the interrupt print function prints a designated print job among multiple print jobs already 25 supplied by priority.

221. The print control program of Claim 218,

wherein the memory step stores multiple print jobs and
returns the status of the print jobs currently
outputting or waiting for output and the print jobs
currently being analyzed back to their status before
5 input of the interrupt command after executing the
interrupt command.

222. The print control program of Claim 217,
wherein the external apparatus supplying the print job
10 is a host computer connected via a network.

223. The print control program of Claim 222,
further comprising an ~~interface~~ step for informing the
host computer that transferred the interrupted print
15 job that there is an ~~interrupt~~ print.

224. The print control program of Claim 217,
further comprising an ejection step for ejecting
printed sheets with any of multiple sheet ejection
20 means wherein the ejection step ejects printed sheets
of interrupt instructed jobs with a different sheet
ejection means than that for other printed sheets.